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C2L868 A CLASSIFICATION OF THE OSCINES (AVES)

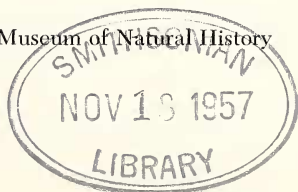
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The classification of birds presents many uncertainties, and this is particularly true of the order Passeriformes, or Perching Birds, which includes three-fifths of the species alive at present. Among the latter, the greatest taxonomic problem is posed by the Oscines, or true Song-birds, and opinions differ very widely. In fact, scarcely any two lists recognize the same families or arrange them in the same sequence. This lack of agreement reflects the fact that most Oscines are not well differentiated morphologically from one another while many share more or less similar general habits. Important anatomical differences that could serve as clues are usually lacking and any that do exist are interpreted differently by various authors (see Mayr (1955 and 1956) whose conclusions conflict in part with those of Beecher (1953) and Tordoff (1954)). The problems inherent in a classification of the Oscines have been discussed by many authors and we need not amplify them here. We may cite, however, the paper by Mayr and Amadon (1951) which advocated one of the older arrangements but somewhat modified.

Nevertheless, among the various classifications, the one proposed by Wetmore (1934 and 1940, as well as earlier papers) has been widely accepted with certain modifications. Minor revisions were made by Wetmore in 1951. In Wetmore's classification, the Corvidae and their allies are placed near the beginning of the sequence, after the Larks, the Swallows, and the Cuckoo-Shrikes (Campephagidae). A group of families are associated with the Crows, such as the Drongos, the

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Orioles, the Cracticidae, the Birds of Paradise and the Bower-birds, forming the corvine assemblage, though it is not yet certain that these families are all closely related. An intermediate group is composed of the Waxwings and the Bulbuls (which in some anatomic features recall the Crows), the Muscicapid Flycatchers, Babblers, Thrushes and their allies, while a third group consists of the Sunbirds, Tanagers, Finches and their allies, which, in our opinion, are the most highly evolved, adapted chiefly to a diet of seeds and nectar.

Amadon, in a recent paper (1957), states that the present song birds represent "three broad levels of evolution" and he accordingly divides them into three groups in a general sequence which "from lower, to higher" follows the general lines of Wetmore's classification.

Mayr and Greenway (1956) reported on the decisions reached by an international committee appointed at the Eleventh International Ornithological Congress at Basel, to recommend "a standardized sequence of the families of Passerine birds." The decision of the committee was to place the corvine assemblage at the top rather than at the bottom of the classification. Mayr and Greenway state that in their capacity as editors of Peters' Checklist, they will follow the sequence recommended by the committee.

It is certainly to be hoped, if hardly expected, that all authors will one day adopt a standardized sequence. Whether it is the right of a committee to rule in matters of classification, is, however, open to question, but we hope, at any rate, that the group appointed at Basel will reconsider some of its decisions on the occasion of the next Congress (Helsinki, June, 1958). A satisfactory general agreement may eventually be reached, and we take this opportunity to express our opinion.

In general we follow Wetmore's composition and order of families, but have a number of modifications to present. For instance, we believe that the Campephagidae should be ranked higher than the Crows, whereas the Wood-Swallows, Shrikes and Starlings should be somewhat lower. However, in the light of our present knowledge, Wetmore's sequence, subject to some change, probably represents a fairly natural order. Of course, any arrangement is more or less arbitrary; no linear sequence can express an arrangement that is, in fact, three dimensional. We realize its shortcomings, but we believe also that no unequivocal reasons have been offered as yet to depart from it widely.

In support of this arrangement it seems that the very much greater adaptive radiation of the birds in the "third group" (which cannot be

denied) is a sound argument for considering them to be the most highly evolved. Furthermore, there is some anatomical evidence that the Corvidae resemble groups which admittedly stand low on the level of classification. Wetmore has shown (1957) that there is one anatomical characteristic, namely the form of the head of the humerus, that appears to be of phylogenetic significance, and in this characteristic the Corvidae resemble some sub-Oscines, such as the Tyrannidae and their allies, and even the Piciformes, Coraciiformes, and Trogoniformes. A complicated form of the head of the humerus, similar to that seen in the Finches, also appears among non-passerine birds such as the Gulls. Dr. Hildegard Howard has pointed out to us that the fossil record suggests that in the Gulls this represents an evolutionary advancement, for ancestral larids lacked this complicated form of the humeral head. She also has called our attention to the similarity of the manubrial area of the sternum in the Corvidae and such sub-oscine birds as the Pittidae, Tyrannidae and Cotingidae. The chief reason why the members of the corvine assemblage are regarded by some authorities as the most highly evolved is their alleged ability to learn, and the complex behavior of some of their species. The elaborate courtship of the Birds of Paradise and Bower Birds is also mentioned. However, as Wetmore remarks, a "belief in superior mental reactions" in the Crows, may be "more an anthropomorphic interpretation than one supported by scientific fact." But, granting that the Corvidae are capable of more complex behavior than the smaller song birds, it must be admitted that the Parrots also are capable of such "intelligent" behavior and that elaborate courtship habits are shown by other non-passerine birds, (Humming-Birds, Pheasants, Ducks, etc.) or sub-Oscines (Manakins). We question, therefore, that these considerations should be given preeminent weight in a classification of the song birds since they have appeared in various groups as a result of parallel evolution.

We recognize the following families and subfamilies, placing them in the three groups recommended by Amadon. We do not infer, however, that other families should not be divided into subfamilies, and we think particularly of the Laniidae and Prionopidae. In a linear sequence there is some unavoidable juxtaposition of families which have little relationship. We, therefore, call the reader's attention to this fact by separating with a line the families, or group of families, that are not closely allied to those immediately above and below.

We express our appreciation to Drs. Dean Amadon, Hildegard

Howard, and Alexander Wetmore for discussing with us a number of problems.

SYSTEMATIC LIST

GROUP 1

Alaudidae

Hirundinidae

Motacillidae (³)

Prionopidae

Vangidae

Artamidae

Cracticidae

Laniidae

Oriolidae

Dicruridae

Grallinidae

Callaeidae

Sturnidae

Corvidae

Paradisaeidae

Paradisaeinae

Ptilonorhynchinae

GROUP 2

Bombycillidae

Dulinae

Ptilogonatinae

Hypocoliinae

Bombycillinae

Campephagidae

Pycnonotidae

Irenidae

Cinclidae

Troglodytidae

Mimidae

Prunellidae

(³) This family is placed next to the Larks in many lists. It is dubious, however, that the Pipits and Wagtails are closely related to the Larks, and Amadon places them as the first family in his group 3.

- Muscicapidae
 - Pachycephalinae
 - Sylviinae
 - Poliophtilinae
 - Malurinae
 - Rhipidurinae
 - Monarchinae
 - Muscicapinae
 - Turdinae
 - Timaliinae (including *Chamaea*, *Paradoxornis* and their allies)
- Aegithalidae
- Paridae
 - Parinae
 - Sittinae
 - Tichodromainae
- Certhiidae
- Salpornidae
 - Salpornitinae
 - Neosittinae
 - Daphoenosittinae
 - Hyposittinae

GROUP 3

- Remizidae
- Dicaeidae
- Nectariniidae
- Zosteropidae
- Meliphagidae
-
- Ploceidae
 - Bubalornithinae
 - Ploceinae
 - Viduae
 - Estrildinae
- Fringillidae
 - Fringillinae
 - Carduelinae
- Emberizidae ⁴
 - Emberizinae
 - Pyrrhuloxiinae
 - Thraupinae
 - Parulinae
- Vireonidae
- Drepaniidae
- Icteridae

⁴ *Tersina* seems to belong in this group and is treated sometimes as a subfamily or a full family. *Catamblyrhynchus* belongs in this group also and is likewise treated as a subfamily or a family. The so-called Coerebidae are believed to be a polyphyletic group, see Beecher (1951), composed of species related either to the Tanagers or to the Wood Warblers.

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